Joshua Wu

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Education

Georgia Institute of Technology | Atlanta, GA, USA Dec 2025

Bachelor of Science in Mechanical Engineering, GPA 3.94/4.00 *Master of Science Aug 2026 – May 2027*

- Concentration in Automation and Robotics, Minor in Computer Science (Computing and Intelligence), Minor in Japanese
  - *Relevant Coursework:* Robotics, Mechatronics, Robotics and Perception, Machine Learning, Circuits and Electronics, Control of Dynamic Systems, Artificial Intelligence, Motion Systems, Experimental methods, Mechanical Vibrations, Data Structures and Algorithms, Computer Organization and Programming, Statistics

Tokyo Institute of Technology | Tokyo, Japan March 2024 – Aug 2024

ACAP Study Abroad program for Mechanical Engineering

Skills

Technical: GD&T, FEA, CAD, Prototyping, Machining skills, Mechanical and Electrical Systems Testing, and Data Analysis

Tools and Equipment: 3D printing, Oscilloscope, Function Generator, Multimeter, and Soldering Iron

Programming: Python, C/C++, MATLAB, Java, LaTeX, ROS, Simulink, LabVIEW, Docker, and NumPy

Software: SolidWorks, Arduino, STM32CubeIDE, VS Code, Autodesk Inventor, Onshape, GitHub, Excel, Word, and Autodesk Eagle

Languages: English (native), Chinese-Mandarin (fluent), and Japanese (Intermediate)

Experience

Bruun Automation Research Lab, Atlanta, Georgia May 2025 – Aug 2025

Research Assistant

- Developed Robot End Effector mechanisms to attach to ATI Quick Changers using Solidworks CAD.
- Conducted literature reviews on over 30 different research papers on Non-Destructive Testing Systems.

Southern Spars, Auckland, New Zealand Jan 2024 – March 2024

Composite Spar Maker

- Managed and distributed carbon fiber stock across departments increasing productivity in a factory environment.
- Proofread engineering drawings, successfully preventing errors propagating through manufacturing process.
- Cut and laminated layers of carbon fiber to make sailboat masts using carbon fiber lamination techniques.

LIDAR Robotics Lab, Atlanta, Georgia Jan 2023 – Dec 2023

Research Assistant

- Designed and prototyped sensor connectors and holders on a bipedal robot using Onshape CAD and 3D Printing.
- Fabricated PCBs with Reflow Soldering.

Projects

Automatic Card Shuffler Mechatronics Project| *Personal/Capstone Team Lead* January 2025 – Present

Designed Autonomous System for shuffling cards for TCGs | I2C, Electrical Schematic and Documentation Analysis

- Worked independently on programming Ultrasonic and RGB color sensors with other hardware using C on STM32IDE.
- Led a team of students to prototype system using SolidWorks CAD and Bambu Lab 3D-Printers.
- Debugged, troubleshooted, and tested circuit system with Multimeter and Serial Monitoring.

League of Legends Champion Predictor Machine Learning Project| *Team Lead* Aug 2024 – Dec 2024

Devised Algorithm using Logistic Regression, Random Forests, and LSTMs | PyTorch/TensorFlow, scikit-learn, Pandas, Keras

- Processed data collected from over 2000 games via Excel and Python using Data Cleaning and Feature Engineering.
- Logistic Regression and Random Forest models achieved 92.79% and 97% accuracy respectively

ME2110 Robotics Competition Top 16 Finish | *Team Member* Aug 2022 – Dec 2022

Created Autonomous Robot to compete in Competition for class under heavy material and sizing restrictions | GD&T

- Fabricated with 3D printing, Laser cutting, and Woodworking with various power tools and machines.
- Familiarized with tools in the Product Development Lifecycle Including HOQ, BOM, Spec Sheet, Morph Chart

Activities

Automotive LIDAR | *ROS integration Team Member* August 2025 – Present

Developing a LIDAR system on an RC vehicle allowing Autonomous Navigation with Collision Avoidance | ROS, ROS2, Git, GitLab

- Collaborated with team to migrate projects and code from ROS to ROS2 due to End of Life.

RoboJackets, RoboWrestling | *Electrical Sub-team Member* Aug 2021 – May 2022

Robot-Sumo Competition | Autodesk Eagle, PCB design, Git, GitHub

- Updated PCB for radio board with new routing and component locations, fixing pin access and voltage issues

Hytech Racing | *Aero-Mechanical Sub-team Member* Aug 2021 – Dec 2021

Georgia Tech Formula SAE team | FEA

- Improved Swan-Neck Wing mount using Topology Studies with SolidWorks FEA to reduce material required by 30%